STANDARD OPERATING PROCEDURE

No. 2420.5D

IDENTIFICATION, DOCUMENTATION, AND TRACKING OF SAMPLES

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by

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Table of Contents

A. PURPOSE AND APPLICABILITY

The purpose of this standard operating procedure (SOP) is to establish uniform procedures for assigning sample numbers, labeling sample containers, documenting the sample collection process, and for tracking samples.

The collection of samples is an essential step in the process for obtaining information on a variety of environmentally-related conditions and situations. Because the analytical results of samples are used extensively to support regulatory decisions, statutory actions, environmental and health assessments, and litigation proceedings, a critical component of the sample collection process is the proper identification, documentation, and tracking of each sample collected.

The procedures outlined herein are applicable to all samples received by the Region 7 Laboratory (RLAB) for analysis (either in-house analysis or out-source contract lab analysis) and to laboratory-generated quality control (QC) samples. The Regional Sample Control Coordinator (RSCC), or their surrogate, shall ensure, at the time of sample receipt, that samples received by RLAB conform to the identification and documentation requirements of this SOP. This SOP should be provided to all individuals (EPA, state, and tribal staff, plus their contractors) collecting samples for delivery to RLAB to facilitate compliance with these procedures.

B. SUMMARY OF PROCEDURE

1. The identification and documentation of each sample is required in order to provide tangible evidence that shows the data resulting from sample analysis is linked directly to the sample collected. The basic mechanism used to establish this critical link between samples collected and analytical data is the assignment of a unique sample identifier to each sample collected, with supporting written information to document the sampling process. In addition to providing the means for establishing the relationship between samples and analytical results, the assignment of unique sample identifiers provides a means for tracking samples through the analytical data generation process.

2. Sample identification is achieved by labeling each field collected sample with a unique sample identifier. Samples contained in multiple sample containers will bear the same unique sample identifier on each container, plus, each container will be uniquely identified (usually by analysis). Quality control is an integral part of the process of obtaining reliable information about environmental samples, therefore, field and laboratory quality control samples will be uniquely identified in an appropriate and consistent manner.

3. Sample documentation is accomplished by recording the appropriate information about the sample on a field sheet which bears the sample's unique sample identifier. If samples are delivered to RLAB with sample identifiers that are not consistent with the unique sample identifiers described in this SOP, the RSCC will assign the requisite unique sample identifiers and record the original sample identifier in the LIMS "External Sample Number" field. Laboratory QC samples are documented on the sample prep and/or analysis log.

4. Sample tracking is accomplished by using the Region 7 Laboratory Information Management System (LIMS). The LIMS is used to identify and track the status of all samples analyzed by the EPA Region 7 Laboratory and its contractors. The current LIMS is a product called R7LIMS. R7LIMS and any future LIMS products will follow the sample identification scheme defined in this SOP. Additionally, the LIMS can generate field sheets and tags (sample labels) to facilitate identification and documentation of field collected samples (see SOP 2420.13, "RLAB Procedures for Preparation of Field Sheets and Tags"). The physical location of samples is tracked by chain-of-custody procedures.

5. Because the identification and documentation of samples establishes the foundation for substantiating reported analytical data, it is important that the individuals who collect and/or generate samples follow the procedures contained in this SOP. The procedures contained in SOP No. 2420.4, "Field Chain-of-Custody for Environmental Samples," should be used in conjunction with this SOP to provide complete field sample documentation.

C. DEFINITIONS

The following definitions of commonly-used terms relating to types of samples and sampled matrices are provided for clarification in the sample identification process:

1. Sample. The word 'sample' is an often overworked term. It can refer to a sample collected in the field, a portion of a field sample that has been spiked with additional analytes (matrix spike sample), or a sample generated entirely within the laboratory, such as a method blank. The term 'sample' most often refers to a Field Sample that is of one matrix collected from a specific point (or area if spatially composited) at a specific time (or period of time if temporally composited). A sample may be divided into several different containers, each for a different type of analysis and possibly requiring different methods of preservation (see SOP 2420.6, "Sample Container Selection, Preservation and Holding Times"). It is common for all of these containers to be collectively referred to as being a (one) sample and for all of them to bear the same unique sample identifier.

2. Field Sample. A representative portion of an environmental matrix (e.g. air, soil, water, etc.) collected from a specific location at a specific time to obtain information regarding environmental conditions and/or effects, process operations and material contents. Field Samples are actual portions of a matrix collected to determine its physical, chemical, or biological constituents and are distinguished from samples used for quality control (QC) purposes. Although QC samples collected in the field are in a sense field samples, the term Field Sample is used to denote a non-QC sample and is sometimes referred to as a "real" or "regular" Field Sample. Field Samples include those collected to evaluate background conditions and are categorized as grab, composite or continuous samples.

   a. Grab Sample. A discrete portion of a matrix collected at a specific location at one instance in time (this period of time is typically defined as not exceeding 15 minutes to allow adequate time for sample collection under most field situations). This type of sample is representative of the environmental condition at the time of collection. This type of sample is commonly used for in-situ determinations and for obtaining information on constituents that require special handling or may be lost if sampled in another manner.

   b. Composite Sample. A portion of a matrix consisting of a mixture of two or more discrete portions (grab samples) collected from a specific location over a period of time or from a specific area (multiple locations) at one time or over a period of time. This type of sample is a representative average of the environmental condition for a definable area and/or period of time. This type of sample is commonly used for assessing environmental conditions.

   c. Continuous Sample. As the name implies, it is a representative portion of a matrix collected in an uninterrupted manner for a period of time. This type of sample is normally associated with in-situ determinations and is, therefore, not usually collected for submittal to a laboratory for analysis. Continuous samples are most commonly used for collecting data of air and water media; e.g., flow, pH, temperature, etc.

3. Split Sample. As the name implies, it is a sample that is separated or split from the total amount of material sampled and sent to a different laboratory for analysis. Soil matrix samples are homogenized then split to ensure uniformity. The Split samples are used to independently verify laboratory analysis.

4. Extract. An extract is the result of the extraction process. The sample extract is labeled by extraction personnel.

5. Digestate. A digestate is the result of the digestion process. The sample digestate is labeled by digestion personnel.

6. Quality Control Sample. Prepared in the laboratory, in the field, or combination thereof, a QC sample is incorporated into sample collection and/or analysis activities as a means of evaluating the quality of analytical results obtained from Field Samples. This type of sample may be a field-collected sample (e.g. duplicate sample) or a laboratory-generated sample, depending on its intended purpose, to evaluate and/or substantiate analytical results. Additional information on the use of QC samples for calculating data quality may be found in SOP No. 2410.15, "Estimating and Documenting Data Quality". The following types of QC samples are commonly encountered in sampling events and should be sufficient to categorize most QC samples:

   a. Duplicate Sample. It is recognized that there are several interpretations of this term. For the purpose of calculating data quality, there are essentially two types of duplicate samples: field and laboratory, as described below.

      (1) Field duplicate samples refer to two Field Samples collected simultaneously from the same location(s) under identical conditions. A duplicate grab sample consists of collecting two Field Samples at the same location and time. A duplicate composite sample consists of two Field Samples containing multiple grab samples each collected at the same location and time. If automatic samplers are used to collect composite samples, the collection of duplicate composite samples would require two automatic samplers to be collocated and set to collect the individual portions or aliquots at the same times. The dividing (also referred to as "splitting") of a single sample into two portions will be considered field duplicate samples in those situations where the preferred method of simultaneous collection cannot be met due to field conditions (e.g. the media being sampled is non-homogeneous like some soils, gravel, etc.).

      (2) Laboratory duplicate samples refer to equivalent aliquots taken from a single sample received by a laboratory for analysis as unique samples. The process of obtaining the duplicate aliquots should be preceded by ensuring the sample is well mixed.

   b. Blank Sample. A sample that is presumed to be free of contamination from constituents of concern and is designed to detect contamination due to the sampling and/or analysis process (collection, preservation, handling, sampling environment, extraction, analysis, etc.).

(1) Field Blank. Includes all blank samples which are prepared in or enter the field environment and include trip blanks, equipment blanks, bottle or container blanks, reagent or preservative blanks and tubing blanks. Ideally, a field blank for most analytical parameters should be exposed to the sampling, preservation and handling process used to collect the physical samples, but this may not always be possible (e.g. the field blanks for volatile organics are only transported unopened to and from the sampling environment). The type of field blank should be identified, as well as the group of Field Samples with which it is associated, in the appropriate sample documentation.

(a) Trip Blank. It is a sample that is presumed to be free of contamination from constituents of concern, and is carried into the field and returned while being exposed to the same field conditions which the sample containers experience during the sample shipping process.

(b) Tubing/Equipment Blank. It is a sample free from constituents of concern (normally deionized water that is distilled) and is pumped through or otherwise introduced into the sampling equipment. The process results in exposure of the sample to any constituents of concern which might be contained in or on the surfaces of the sampling equipment.

(c) Preservation Reagent Blank. It is a sample which is originally free from constituents of concern (normally distilled deionized water) and to which the preservative (acid or other chemical) is added in the same concentration and quantity as normally added to a sample. The purpose is to determine if any contaminants of concern exist in the preservative used.

(d) Container Blank. A sample originally free from constituents of concern (normally distilled deionized water) which is introduced into randomly chosen containers at the time of sampling. The purpose of this blank is to determine the existence of contaminants of concern in the sampling containers.

(2) Method Blank. A laboratory QC sample used to assess the level of contamination in the analytical system. A method blank is,

typically, a portion of a clean matrix that is taken through the entire sample preparation and analysis process.

c. Laboratory QC Sample. A variety of QC samples are used by an analytical laboratory for internal QC purposes. For the purpose of sample identification, all such samples prepared by the laboratory for internal use are classified under this category. Commonly used laboratory QC samples include lab duplicate samples, method blanks, lab control samples, matrix spikes, and lab fortified blanks.

d. Performance Evaluation Sample. A sample that contains a known amount of a chemical constituent or parameter and is introduced for analysis to assess the accuracy of the analytical method. The actual content of the PE sample, either in regard to specific constituents and/or concentrations of constituents, is normally unknown to the receiving analytical laboratory.

e. Performance Testing Sample. Similar to a performance evaluation sample except that it is provided by a NELAC (National Environmental Laboratory Accreditation Conference) certified PT sample provider. Results of the analysis of these samples are used for NELAC accreditation purposes.

f. Some additional Field Samples may be thought of as QC samples due to the location or method of sample collection. These are labeled the same as, and analyzed the same as, other Field Samples.

(1) Rinsate Sample. This type of sample is used to evaluate the effectiveness of field decontamination procedures for sampling equipment. The sample is obtained by collecting the rinse water that is poured over the sampling equipment after decontamination has been completed (the water is normally distilled ionized water prepared in the laboratory and carried to the field).

(2) Background Sample. In some investigations, samples are collected to determine what is representative of the environment for constituents of concern. These samples, normally called background samples, are Field Samples which are collected off-site or upstream of an area that is affected by a contaminant of concern, but are not expected to contain any or significant amounts of the contaminant of concern.

7. Matrix. The matrix (also known as 'media') refers to the substance from which the sample was obtained and/or of which the sample consists. Since the sampled matrix has a direct bearing on how a sample is preserved and on the selection of

the method to analyze the sample, the identification of the matrix is an important aspect of sample documentation.

a. RLAB Matrix. The RLAB matrix is the matrix name used by RLAB to identify the matrix of the sample. It is the matrix used in the LIMS and in the RLAB Methods.

(1) Air. All samples collected to evaluate or analyze the chemical and physical contents of the air, both indoor and outdoor. The resulting sample may be in different forms depending on the method of collection (e.g. Tenex tube, canister, PUF, etc.).

(2) Solid. All samples obtained of soils, sediments, sludge, dust, and any other solid material.

(3) Tissue. All samples obtained of living organisms; e.g., plants or vegetation, fish, animals, etc., either whole or portions thereof.

(4) Waste. All samples obtained of media that do not logically fit under one of the other specifically defined matrices or contain exceedingly high concentrations of analytes. (Previously referred to as "Hazardous/Other".) Examples of these type samples are wipe samples, drum samples, non-aqueous liquid samples, product or formulation samples and mixed media samples.

(5) Water. All samples obtained of aqueous liquid, e.g., wastewater, surface water, drinking water, groundwater, etc.

b. NELAC Matrix. NELAC has its own list of Quality System Matrices. These matrices are referenced in the RLAB Methods, but are not used in the LIMS or for sample definition/identification.

(1) Aqueous. Any aqueous sample excluded from the definition of Drinking Water matrix or Saline/Estuarine source. Includes surface water, groundwater, effluents, and TCLP or other extracts.

(2) Drinking Water. Any aqueous sample that has been designated a potable or potential potable water source.

(3) Saline/Estuarine. Any aqueous sample from an ocean or estuary, or other salt water source such as the Great Salt Lake.

(4) Non-aqueous Liquid. Any organic liquid with <15% settleable solids.

(5) Biological Tissue. Any sample of a biological origin such as fish tissue, shellfish, or plant material. Such samples shall be grouped according to origin.

(6) Solids. Includes soils, sediments, sludges and other matrices with >15% settleable solids.

(7) Chemical Waste. A product or by-product of an industrial process that results in a matrix not previously defined.

(8) Air and Emissions. Whole gas or vapor samples including those contained in flexible or rigid wall containers and the extracted concentrated analytes of interest from a gas or vapor that are collected with a sorbent tube, impinger solution, filter, or other device.

D. PERSONNEL QUALIFICATIONS

Personnel collecting and/or delivering samples to RLAB should have a basic knowledge and understanding of RLAB sample management procedures including chain-of-custody (SOP 2420.4). RLAB personnel receiving samples must be knowledgeable of the sample log-in process (SOP 2420.1, "Sample Receipt and Log-in"). Personnel defining samples in the LIMS must be familiar with using the LIMS (SOP 2410.20, "R7LIMS Functions and Security") and have an R7LIMS account.

E. SAMPLE IDENTIFICATION

1. Each sample is identified by a unique sample identifier which is assigned to it.

   a. This identifier is used to distinguish an individual sample from all other samples and is used on all documentation relating to collection, handling, analysis and reporting the analytical results of an individual sample.

   b. Since a sample is normally analyzed for a number of different chemical constituents or parameters that require different sample containers and preservation techniques, the same unique sample identifier will be assigned to each portion of the original sample split among individual sample containers. For example, if a sample is split among three individual sample containers in order to properly preserve each portion for the specific parameter or group of parameters to be analyzed, each of the

individual sample containers would be identified by the same unique sample identifier.

2. The unique sample identifier consists of three parts: the Analytical Services Request Number (ASR Number), Sample Number, and Quality Control Code (QC Code). These are frequently written together, separated by hyphens. The unique sample identifier is sometimes (confusingly) simply referred to as the sample number.

   a. ASR Number - This is the number automatically assigned to an ASR at the time it is defined in the LIMS. Each ASR has its own unique number.

   b. Sample Number - This number is assigned by the responsible Project Manager (or their designee) for each field sample collected for an ASR.

   c. QC Code - This two or three character alpha code is used to identify the nature of the sample for QC purposes. Field personnel will normally only use the following codes to identify field collected samples:

   __ = Field Sample (two underscore characters)
   FD = Field Duplicate
   FB = Field Blank
   FS = Field Spike
   FSD = Field Spike Duplicate

   Laboratory personnel will use the following codes to identify laboratory QC samples:

   MB = Method Blank
   LD = Laboratory Duplicate
   MS = Matrix Spike
   MSD = Matrix Spike Duplicate
   LCS = Laboratory Control Sample
   LFB = Laboratory Fortified Blank
   PE = Performance Evaluation sample
   PT = NELAC Performance Testing sample

3. The following examples are provided to illustrate some unique sample identifiers:

   26-1-__ - Field Sample number 1 for ASR Number 26
   26-1-FD - Field Duplicate of Field Sample above
   26-2-FB - Field Blank submitted for same ASR Number
   87-5-__ - Field Sample number 5 for ASR Number 87

87-5-MS - Matrix spike of Field Sample above
87-900-LCS - Lab Control Sample number 900 for ASR Number 87

4. Some quality control samples have meaning only when referenced to another sample (i.e. QC Codes of FD, FS, FSD, LD, MS, MSD). To facilitate the identification of the referenced sample, the LIMS has two fields for use with these QC samples: Ref Sample Number and Ref QC Code. Rules for determining the Sample Number, Ref Sample Number, and Ref QC Code for these QC samples are given below.

   a. The QC sample and the referenced sample (the sample that the QC sample is a spike or duplicate of) must have the same ASR Number and Matrix.

   b. Field QC samples (FD, FS, FSD) will be assigned the same Sample Number as the original Field Sample (__) that they are a duplicate or spike of. The Ref Sample Number, and Ref QC Code are automatically assigned by the LIMS and can not be edited by the user.

   c. Lab QC samples (LD, MS, MSD) that are a duplicate or spike of a Field Sample or Performance Testing sample (__, PT) will be assigned the same Sample Number as the original Field Sample or Performance Testing sample that they are a duplicate or spike of. By default, the Ref Sample Number will be set to the Sample Number and the Ref QC Code will be set to "__" by the LIMS. If the sample being spiked or duplicated is a Performance Testing sample, a Ref QC Code of "PT" will need to be manually entered into the LIMS. Note that it is not appropriate for a Field Sample and a Performance Testing sample to have the same Sample Number.

   d. Lab QC samples (LD, MS, MSD) that are a duplicate or spike of any other field collected sample (QC Code of FB, FD, FS, FSD) will be assigned a different Sample Number than the original sample that they are a duplicate or spike of. The Ref Sample Number and Ref QC Code will need to be manually entered into the LIMS. Although not a requirement, it is suggested that a Sample Number in the "800" range be used for the lab QC sample.

   e. MSD samples must have the same Sample Number, Ref Sample Number, and Ref QC Code as their associated MS sample. The MS sample must be defined in the LIMS before the MSD sample can be defined.

5. The following rules are provided for further clarification of the unique sample identifier assignment process:

a. Each sample collected of a specific media will have a unique sample identifier. For example, if two samples are collected at the same location and time, but are of two different media (e.g. air and solid, or water and tissue), the sample of each specific media will be considered a separate sample. Each sample will be assigned a separate sample number.

b. In-situ samples collected for instantaneous field determinations (e.g. pH, temperature, specific conductance, dissolved oxygen, residual chlorine) in connection with the collection of samples for submission to a laboratory for analysis will be identified by sample identification numbers. Results of field determinations are recorded on field sheets associated with the sample collected for laboratory analysis. The sample identification number of the sample used for the field determination will normally be the same as the sample identification number of the sample submitted for analysis.

c. Continuous samples do not require the assignment of sample identification numbers, but do require specific written documentation to record sampling locations, and times of sampling and readings. Since many continuous monitors provide strip charts and/or printouts of readings, this documentation should be kept to supplement other written documentation.

d. Even though samples for some analyses, such as those for volatile organics, are always collected in two or more containers, they are considered to be a single sample. Additionally, if multiple analyses are to be analyzed for (such as metals, pesticides and VOAs), separate containers will be needed for each analysis. These containers are collectively considered to be one sample and will have the same unique sample identifier.

e. Sample extracts are labeled by the person performing the extraction of the sample. The sample extract container is labeled by hand-copying the sample label's information onto a smaller sample extract label. The sample extract label must identify the extraction solvent. Transcription errors are prevented by double checking the sample extract label prior to affixing the sample extract label to the sample extract container. The sample extract label is then affixed to the sample extract container.

f. Digestates are labeled by the person performing the digestion of the sample. The sample digestate container is labeled by hand-copying the sample label's information onto a blank label. The sample digestate label must identify the requested analysis. Transcription errors are prevented by double checking the sample digestate label prior to affixing the sample

digestate label to the sample digestate container. The sample digestate label is then affixed to the sample digestate container.

g. As a general rule-of-thumb, Field Blanks that are associated with a group of samples will have their own Sample Number. Field Blanks that are associated with just one Field Sample (e.g. a separate Field Blank for each Field Sample) may have, but are not required to have, the same Sample Number as the Field Sample that it is associated with.

h. It is common practice for some laboratory QC samples (MB, LCS, LFB) to be assigned a Sample Number in the "900" range. This is not a requirement for these samples (any number may be used), however, it is a desirable practice as it helps avoid confusion by keeping these QC samples "numerically segregated" from Field Samples. For sampling events involving a large number of Field Samples, running into the 900 range, it may be desirable to number these QC samples in the 1500, 2000, or other appropriate range.

6. All samples submitted for analysis will have a sample label affixed to each sample container.

a. Sample labels currently in use are computer generated, therefore, minimal or no entries are required. Any entries made on the sample labels will be accomplished using indelible ink.

b. With the exception of volatile samples and samples packed inside a paint can for shipping, only one sample label is needed for each sample container. Since volatile and over-packed samples consist of more than one container, multiple labels are required so that each container (including the outside container) can be labeled.

NOTE: Since some of the computer-generated sample labels are susceptible to deterioration from water, clear plastic tape should be placed over these sample labels if they will come into contact with water (including ice) during storage, transport and/or shipment. Some computer-generated sample labels are water resistant; these labels will not require tape protection.

c. Each sample container must be uniquely identified by the sample label. Where there is only one container for an analysis (such as Metals in Water by ICP), the container is uniquely identified by the unique sample identifier (ASR Number, Sample Number, and QC Code) and the analysis abbreviation (such as Met W). Where there is more than one container for an analysis (such as VOCs in Water by GC/MS), the containers are

uniquely identified by the unique sample identifier (ASR Number, Sample Number, and QC Code), the analysis abbreviation (such as VOA W), and a sequential container number (1, 2, 3, etc.). "Specific" sample container labels generated by the laboratory's LIMS are uniquely identified as described above. When samples are received by the laboratory bearing LIMS "Generic" labels, labels generated by the sampler, or hand-made labels, the necessary additional information should be added to the label or a second label should be placed on the container to uniquely identify it. It is the responsibility of the laboratory person receiving the samples (RSCC or their alternate) to ensure that each container is uniquely identified.

F. SAMPLE DOCUMENTATION

1. A field sheet is used to document the field sample collection process and contains pertinent information relative to the sample collected. (Laboratory QC samples are documented on the sample prep and/or analysis log as described in SOP 2410.10, "Analytical Data Submission Package Contents and Review". This section deals primarily with field collected samples.)

2. A field sheet will be completed for each sample collected and will be the official document that provides a permanent record of each sample collected. Since this document is the essential written component required to establish the relationship between the sample collected and the analytical results obtained, it will be controlled and will become a part of the official file on a sampling event.

3. Field sheets can be generated by the laboratory's LIMS, or alternate forms may be used. A field sheet should contain, at a minimum, the following information:

   a. Unique Sample Identifier - This may be recorded as three separate pieces of information (ASR Number, Sample Number and QC Code) or written as one entry (separated by hyphens).

   b. Matrix Sampled - The RLAB matrix as defined in section C.7.a.

   c. Project Information - This should include such things as the Project Manager, Project ID and description, city, state and other pertinent information.

   d. Location/Description - This short description should identify, to the satisfaction of the Project Manager, where the sample was collected. This is typically done by describing or naming the sample collection location.

e. Sample Collection Date/Time - For time-composited samples, the start date and time and end date and time are required. For grab samples only the start date and time are needed. Times should be recorded in the 24-hour format.

f. Analyses - An unambiguous list of the required laboratory analyses.

g. Field Measurements - Recorded along with the measurement units.

h. Comments - As appropriate.

i. Sampler - The name of the person(s) collecting the sample.

4. The Project Manager is responsible for ensuring that all field sheets are properly and accurately completed, and are safeguarded until they are delivered to RLAB.

5. The original completed field sheets for each sampling activity will be delivered to RLAB along with the samples to be analyzed. They will be maintained in the RLAB analytical support file for the specific ASR.

6. All entries on the field sheets will be legible and completed in indelible ink. Corrections to entries on field sheets should be accomplished by drawing a single line through the entry to be corrected, entering the correction above or adjacent to the lined-through entry and dating and initialing the correction.

7. In addition to the field sheet, another essential component of sample documentation is chain-of-custody. SOP 2420.4 describes the procedures for chain-of-custody of field collected samples being delivered to RLAB. SOP 2420.2, "Storage and Security of Environmental Samples" describes chain-of-custody procedures for within-lab sample transfers of routine samples. For samples that are connected with a criminal investigation, SOP 2420.10, "RLAB Procedures for Custody and Tracking of Samples and Analytical Data Files to be used as Evidence in Criminal Investigations," describes chain-of-custody documentation procedures for within-lab sample transfers.

G. SAMPLE TRACKING

1. The LIMS database system is used for tracking the status of samples and sample analyses through the analytical process and for tracking and reporting the results of sample analysis. Numerous reports are available from the LIMS and provide a variety of information pertaining to the samples and sample analyses. SOP 2410.20 and the LIMS online help provides more information on this.

2. Information relating to the status of samples submitted for analysis and the status of sample analyses may be obtained by the Project Manager from the LIMS or the RLAB Data Coordinator.

3. It is recognized that changes frequently occur in the field which result in changes to planned sampling activities. Since the LIMS system is used for logging in samples upon receipt, tracking, and ultimately reporting the results, it is essential that Project Managers ensure the entries contained in LIMS for specific sampling activities are accurate and complete (especially any field data and measurements). Discrepancies relating to numbers and types of samples and parameters requested for analysis must be corrected at the time of sample receipt by RLAB in accordance with SOP 2420.1.

4. SOP 2420.2 describes, for routine samples, the procedures for tracking the location of samples and sample containers within the laboratory. For samples that are connected with a criminal investigation, SOP 2420.10 describes the procedures used for tracking the location of samples and sample containers within the laboratory.

5. Unless otherwise requested, environmental samples will be properly disposed of in accordance with SOP 2420.9, "Sample Disposal", upon completion of the analysis and finalization of the analytical results.

H. QUALITY ASSURANCE AND QUALITY CONTROL

It is incumbent on all parties involved with sample collection, analysis, and management that these procedures be followed. Conformance with these procedures shall be evaluated during scheduled audits of RLAB operations as described in SOP 2430.5, "Quality Control Spot Checks of Regional Laboratory Data Packages", and SOP 2430.6, "Periodic Internal Program Review of the Region 7 Laboratory".

I. REFERENCES

1. Region 7 SOP 2410.10, Analytical Data Submission Package Contents and Review
2. Region 7 SOP 2410.15, Estimating and Documenting Data Quality
3. Region 7 SOP 2410.20, R7LIMS Functions and Security
4. Region 7 SOP 2420.1, Sample Receipt and Log-in
5. Region 7 SOP 2420.2, Storage and Security of Environmental Samples
6. Region 7 SOP 2420.4, Field Chain-of-Custody for Environmental Samples
7. Region 7 SOP 2420.6, Sample Container Selection, Preservation and Holding Times
8. Region 7 SOP 2420.9, Sample Disposal
9. Region 7 SOP 2420.10, RLAB Procedures for Custody and Tracking of Samples and Analytical Data Files to be used as Evidence in Criminal Investigations
10. Region 7 SOP 2420.13, RLAB Procedures for Preparation of Field Sheets and Tags
11. Region 7 SOP 2430.5, Quality Control Spot Checks of Regional Laboratory Data Packages
12. Region 7 SOP 2430.6, Periodic Internal Program Review of the Region 7 Laboratory